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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,176	03/29/2001	Chien Ping Huang	55776	9088
21874	7590	03/26/2004	EXAMINER	
EDWARDS & ANGELL, LLP P.O. BOX 55874 BOSTON, MA 02205			GEBREMARIAM, SAMUEL A	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/823,176

Applicant(s)

HUANG ET AL.

Examiner

Samuel A Gebremariam

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of "a semiconductor package formed on the substrate is free of the tie bars" must be shown or the feature(s) canceled from the claim(s). The drawings in the present application do not show the semiconductor package in conjunction with the tie bars. Further the drawings do not show the feature showing the tie bars being free of a semiconductor package. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

Claim 1, 9 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the specification for the limitation of "a semiconductor package formed on the substrate is free of the tie bars" as recited in claims 1, 9 and 14.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 9 recite the limitation "the substrate being linked to the supporting bars means of no more than two tie bars, wherein a semiconductor package formed on the substrate is free of the tie bars." However the recited claim contradictory. In one hand the claim calls for two tie bars and on the other hand the claim also calls substrate free of tie bars. The above limitation lacks clarity in its meaning and scope. Therefore the claim is indefinite.

Claim 14 recites the limitation "the substrate being linked to the supporting bars by a means of one point linkage structure consisting of just tie bar linkage to one the two supporting bars, wherein a semiconductor package formed on the substrate is free of the tie bar." However the recited claim contradictory. In one hand the claim calls for just one tie bar and on the other hand the claim also calls the substrate free of tie bar. The above limitation lacks clarity in its meaning and scope. Therefore, the claim is indefinite.

It appears applicant is claiming an intermediate product with respect the tie bars. Therefore, for the purpose of art rejection, only the final product will be considered, meaning the final product does not require any tie bars.

Claims 2-8, 10-13 and 15-16 are also rejected as being dependent of the rejected base claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee US patent No. 5,652,185.

Regarding claims 1, 3-9, 11-14 and 16 Lee teaches (figs. 3 and 4) a substrate strip (124), which comprises: (a) a frame (132 supporting sites) having a pair of parallel supporting bars including a first supporting bar and a second supporting bar (the structures bounding substrate 130, and (b) at least one substrate (130) supported on the supporting bars; wherein a semiconductor package (col. 3, lines 44-67) formed on the substrate is free of the tie bars.

The limitation that the substrate being linked to the supporting bars by means of no more than two tie bars, a two point linkage of two tie bars, one point linkage of one tie bar or the way the tie bars are arranged is not given patentable weight, because the final product does not require any tie bars at all. Since the final structure of the claimed invention does not include tie bars, for the purpose of art rejection only the final product will be considered, meaning the final product does not require any tie bars.

Regarding claims 2, 10 and 15 Lee teaches the entire claimed structure of claim 1 above including the substrate is dedicated for BGA application (col. 3, lines 44-67).

***Response to Arguments***

7. Applicant's arguments filed on 11/22/2003 have been fully considered but they are moot in view of new grounds of rejection.


***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel Admassu Gebremariam whose telephone number is (571) 272-1913. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (571) 272-1732. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Samuel Admassu Gebremariam  
March 22, 2004

  
EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800